

REMARKS

The examiner has rejected claims 14, 15 and 17 under 35 USC 103 over Ishiguro et al in view of Yamaguchi et al, and has rejected claim 16 under 35 USC 103 over Ishiguro et al in view of Matsutani.

Applicant has amended claims 14 and 17 to clarify that the part that is separated from the blank to form the electrode of the spark plug includes both a portion of the surface part and a portion of the intermediate part of the blank, and that when the part separated from the blank is fastened to the base part of the spark plug a joint is made between the base part and the portion of the intermediate part.

Applicant has discussed the subject matter of the independent claims 14 and 17 and the disclosure of the cited references in the response filed November 4, 2008 to the Office Action mailed August 5, 2008.

The examiner takes the position that Ishiguro et al teaches the structure and method defined in claims 14 and 17 respectively except that Ishiguro et al does not disclose that the joint between the element 60 and the ground electrode 40 (Ishiguro et al, FIGS. 5 and 8) is an explosion welding joint. The examiner argues that it would have been obvious to one of ordinary skill in the art to have used the explosion welding process of Yamaguchi et al in the device or method of Ishiguro et al.

In the Office Action mailed August 5, 2008, the examiner rejected claims 14, 15 and 17 under 35 USC 103 over Ishiguro in view of Yamaguchi using precisely the same arguments as are now presented in the Office Action mailed February 2, 2009.

In the response to the previous Office Action, applicant argued that the examiner had not shown that it would have been obvious to use explosion welding to join the element 60 of Ishiguro et al to the ground electrode 40 because the examiner had not explained how explosion welding could be applied to the structure disclosed by Ishiguro et al. In response to applicant's argument, the examiner had an opportunity to explain how explosion welding

could be applied to the structure disclosed by Ishiguro et al but the examiner instead stated that the argument was moot because the examiner had withdrawn the rejection. However, the examiner has not withdrawn the rejection of claims 14, 15 and 17 over Ishiguro et al in view of Yamaguchi et al, but has repeated the rejection employing the identical explanation in support. Therefore, applicant's argument that the examiner had not advanced a plausible explanation as to how explosion welding might be applied to produce the structure shown in FIG. 5C of Ishiguro et al, or the structure shown in FIG. 8D of Ishiguro et al, is not moot and must be addressed if the examiner intends to maintain the rejection.

The examiner's characterization of applicant's arguments filed November 4, 2008 is incorrect in suggesting that applicant argued that it is not enough to establish that it would have been feasible, let alone obvious, to employ explosion welding in the method described by Ishiguro et al. This characterization of applicant's argument suggests that the examiner has in fact shown that it would have been feasible to employ explosion welding in the method described by Ishiguro et al. In fact, applicant argued that showing that explosion welding is a known technique and has been used in the fabrication of a spark plug is not enough to establish that it would have been feasible, let alone obvious, to employ explosion welding in the method described by Ishiguro et al. Applicant nowhere suggested that the examiner has shown that it would have been feasible to employ explosion welding in the method described by Ishiguro et al, and applicant takes the position that the examiner has not shown that it would have been feasible to employ explosion welding in the method described by Ishiguro.

If Ishiguro et al had disclosed that the element 60 could be attached to the electrode 40 by explosion welding, a person of ordinary skill in the art would have recognized that this attachment technique may be advantageous relative to other available techniques. However, applicant submits that a person of ordinary skill in the art presented with the disclosure of Ishiguro et al (which does not disclose that the element 60 is attached to

the electrode 40 by explosion welding) would not find any information in Yamaguchi et al that would be helpful in applying explosion welding to produce the structure shown by Ishiguro et al.

Claim 17 further distinguishes over the combined disclosures of Ishiguro et al and a Yamaguchi et al by reciting the steps of fastening a first composite member to the base part of the ground electrode and fastening a second composite member to the base part of the center electrode. The examiner interprets Ishiguro et al as disclosing a second composite member that comprises a second surface part (60) and an intermediate part (40), and the step of fastening the second composite member to the base part (10) of the center electrode (30). However, the housing 10 of Ishiguro et al is not part of or attached to the center electrode 30, and applicant therefore submits that the examiner's interpretation of Ishiguro is incorrect. Whereas claim 17 specifies the steps of forming a composite blank, separating a first composite member from the blank and fastening the first composite member to the base part of the ground electrode, and providing a second composite member and fastening the second composite member to the base part of the center electrode, Ishiguro et al discloses attaching the element 80' to both the center electrode 30 and the ground electrode 40 and removing parts of the element 80' to provide the electrode chips 50, 60 with the spark gap 70 therebetween.

The examiner asserts that FIGS. 5 and 8 of Ishiguro et al disclose the step of forming a blank part, as recited in both claim 14 and claim 17, comprising a surface part (60) and an intermediate part (40) by joining the surface part (60) to the intermediate part (40). Thus, the examiner evidently views the combination of the ground electrode 40 and the element 60 (or perhaps the element 80') as the blank part that is called for by claim 14, for example.

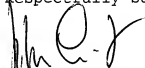
In FIG. 5 of Ishiguro et al, the element 80' is applied to the end 31 of the center electrode 30 and portions of the element 80' are removed to provide the gap 70, and similarly in FIG. 8, except that the electrodes 40 are attached to the element 10 after the noble metal member 100 has been positioned on the end 31 of the

center electrode 30. Ishiguro et al does not disclose or suggest that a blank comprising a surface part and an intermediate part is manufactured and a part is then separated from the blank and is fastened to an electrode of the spark plug. Applicant therefore believes that the examiner's interpretation of Ishiguro et al is incorrect.

Claim 16 stands rejected under 35 USC 103 over Ishiguro et al in view of Matsutani. The examiner asserts that Ishiguro et al teaches all the limitations of claim 16 except for the requirement that the surface of the blank is formed of powder consisting of at least one metal of the Pt group or an alloy thereof. Applicant respectfully submits that the examiner is incorrect, in that Ishiguro et al also fails to disclose that the joint between the element 60 and the electrode 40 is an explosion welded joint.

In view of the foregoing, applicant submits that the subject matter of the independent claims 14 and 17 is not disclosed or suggested by the cited references, whether taken singly or in combination. Therefore, the independent claims 14 and 17 are patentable and it follows that the dependent claims also are patentable.

Respectfully submitted,



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